Health Consultation

Community Health Concerns

Oeser Company Superfund Site
Whatcom County, Washington
EPA FACILITY ID: WAD008957243

August 28, 2003

Prepared by

The Washington State Department of Health
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

Foreword

The Washington State Department of Health (DOH) has prepared this health consultation in cooperation with the Agency for Toxic Substances and Disease Registry (ATSDR). ATSDR is part of the U.S. Department of Health and Human Services and is the principal federal public health agency responsible for health issues related to hazardous waste. This health consultation was prepared in accordance with methodologies and guidelines developed by ATSDR.

The purpose of this health consultation is to identify and prevent harmful human health effects resulting from exposure to hazardous substances in the environment. Health consultations focus on specific health issues so that DOH can respond to requests from concerned residents or agencies for health information on hazardous substances. DOH evaluates sampling data collected from a hazardous waste site, determines whether exposures have occurred or could occur, reports any potential harmful effects, and recommends actions to protect public health. The findings in this report are relevant to conditions at the site during the time of this health consultation, and should not necessarily be relied upon if site conditions or land use changes in the future.

For additional information or questions regarding DOH or the contents of this health consultation, please call the health advisor who prepared this document:

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Glossary

Acute	Occurring over a short time.
Agency for Toxic Substances and Disease Registry (ATSDR)	The principal federal public health agency involved with hazardous waste issues, responsible for preventing or reducing the harmful effects of exposure to hazardous substances on human health and quality of life. ATSDR is part of the U.S. Department of Health and Human Services.
Aquifer	An underground formation composed of materials such as sand, soil, or gravel that can store and/or supply groundwater to wells and springs.
Chronic	Occurring over a long time (more than 1 year).
Contaminant	A substance that is either present in an environment where it does not belong or is present at levels that might cause harmful (adverse) health effects.
Dermal Contact	Contact with (touching) the skin.
Dose	A dose is the amount of a substance that gets into the body through ingestion, skin absorption or inhalation. It is calculated per kilogram of body weight per day.
Epidemiology	The study of the occurrence and causes of health effects in human populations.
Exposure	Contact with a substance by swallowing, breathing, or touching the skin or eyes. Exposure may be short-term [**acute exposure**], of intermediate duration, or long-term [**chronic exposure**].
Groundwater	Water beneath the earth's surface in the spaces between soil particles and between rock surfaces

Hazardous substance	Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.
Indeterminate public health hazard	The category used in ATSDR's health consultation documents when a professional judgment about the level of health hazard cannot be made because information critical to such a decision is lacking.
Ingestion	The act of swallowing something through eating, drinking, or mouthing objects. A hazardous substance can enter the body this way.
Inhalation	The act of breathing. A hazardous substance can enter the body this way.
Media	Soil, water, air, plants, animals, or any other part of the environment that can contain contaminants.
Microgram per cubic meter (ug/m^3)	A measure of the concentration of a chemical in a known volume (a cubic meter) of air, soil, or water.
Remedial investigation	The CERCLA process of determining the type and extent of hazardous material contamination at a site.
Route of exposure	The way people come into contact with a hazardous substance. Three routes of exposure are breathing [**inhalation**], eating or drinking [**ingestion**], or contact with the skin [**dermal contact**].
U.S. Environmental Protection Agency (EPA)	Established in 1970 to bring together parts of various government agencies involved with the control of pollution.

Background and Statement of Issues

The Washington State Department of Health (DOH) prepared this health consultation in response to community health concerns associated with the release of wood treating preservatives and other chemicals from the Oeser Company (Oeser), an active wood treating facility located at 730 Marine Drive, Whatcom County, Washington (Figure 1).[1]

The Oeser facility began operation in 1943. It occupies approximately 26-acres in a mixed industrial and residential area. The northeastern portion of the facility lies within the City of Bellingham. The facility currently treats utility poles and fence posts with a pentachlorophenol (PCP) solution. Creosote was used to treat wood at the site in the past. Some of the wood treating preservatives have been released into the environment through spills, leaks, and waste disposal activities at the site.[2]

The Oeser facility was placed on the U.S. Environmental Protection Agency (EPA) National Priority List (NPL) in October 1997 in response to the potential threat posed by the facility to human health and the environment. Since that time, EPA has collected information about the nature and extent of the contamination at the facility and surrounding land, which they used to evaluate potential health risks as well as support cleanup decisions. EPA has also removed or covered some of the most contaminated soil at the facility to protect workers and trespassers.[2]

DOH is currently evaluating whether the contaminants found in the soil, water, and air samples collected from the Oeser facility and surrounding land can cause harmful health effects. Several factors that DOH considers as part of its evaluation include how much of the chemical people are being exposed to (dose); how long they are being exposed (duration); how they are being exposed (breathing, eating, inhaling, touching) as well as individual characteristics such as age and health. The results of DOH's evaluation will be presented in a draft public health assessment document that will be available for public review in the future. This document will replace the existing draft document released previously in February 1999.

DOH has worked with the community to address health concerns since it became involved with the Oeser site in the mid-1990s. This health consultation and future documents are part of an on-going effort by DOH to respond to the community's concerns.

Discussion

The community has raised a number of questions and concerns since DOH became involved with the Oeser site in the mid-1990s. Some of them have been addressed through fact sheets distributed to the community or direct responses at community meetings. Other community questions and concerns, however, have not been addressed.[1]

This health consultation provides DOH's response to the outstanding questions and concerns raised by the community. Questions and concerns regarding routes of exposure and health effects

posed by the Oeser site cannot be fully addressed until we complete our public health assessment.

Response to community questions and concerns, which are grouped under general subheadings, are provided below.

General

1. *Do sample contaminant concentrations detected at the site represent maximum levels of contamination?*

   The purpose of environmental sampling is to collect samples that are representative of site conditions. Some samples at the Oeser site were collected in areas where the maximum levels of contamination were expected, such as locations where chemicals were spilled or released into the soil, water, or air. Other samples were collected from areas some distance or depth from a spill or release. Sample results can then be used to estimate both average and "worst-case" exposure scenarios.

2. *What is the toxicity of the chemicals?*

   The toxicity of a chemical refers to its ability to cause damage to organs (e.g., lungs, liver, or kidneys), interfere with biochemical processes, or disrupt the various systems found in the body (e.g., enzyme, immune). Whether toxic effects occur as a result of exposure to chemicals depends on how much of a chemical people are exposed to (dose), how often they are exposed (duration), and how the chemical enters the body (breathing, eating, inhaling, touching). Sources of information about the toxicity of specific chemicals are provided in the response to Question 4, below. As part of its ongoing public health assessment, DOH is evaluating whether the chemicals found at the Oeser site are at levels that will cause harmful health effects.

3. *How can the residents evaluate the data?*

   A significant level of expertise with environmental investigations is necessary to successfully evaluate data collected from contaminated sites such as Oeser. The typical resident, however, usually does not have such expertise and often relies on the federal or state agency overseeing the investigation to evaluate and report whether the data is adequate for addressing contamination problems at a site. Some federal and state grant money is available to community groups involved with contaminated sites where there is government oversight of the investigation and cleanup activities. The community groups often use the grant money to hire a consultant to assist them in reviewing and interpreting the data.

   EPA has provided grant money through its Technical Assistance Grant (TAG) program to a group of people from the Birchwood neighborhood, located north of the Oeser site, who formed a community group called the Oeser Cedar Cleanup Coalition (OCCC). Through their grant, the OCCC hired an environmental consultant to assist them in reviewing the

environmental data collected at the site. The OCCC welcomes questions from the community about the project. The following OCCC members are available to answer your questions: Sue DenAdel, OCCC Board President (360-733-5954); Jack Weiss, OCCC Executive Director (360-738-2103); and Mark Herrenkohl, OCCC Technical Advisor (360-756-9296).

DOH can also provide assistance to the community regarding health concerns related to the Oeser site. Please contact Barbara Trejo, DOH's public health advisor for the Oeser site. Her phone number and e-mail address are located in the foreword of this health consultation report.

4. *How can we find out about the chemicals?*

The Agency for Toxic Substances and Disease Registry (ATSDR), an agency of the U.S. Department of Health and Human Services, produces information about chemicals typically found at National Priority List sites like Oeser. ATSDR provides brief two-page documents called ToxFAQs that provide answers to the most frequently asked questions about chemicals and their health effects. ToxFAQs are available at ATSDR's web site at http://www.atsdr.cdc.gov/toxfaq.html. More detailed, but non-technical, information about chemicals and their health effects are provided in ATSDR's Public Health Statements which can be found at http://www.atsdr.cdc.gov/phshome.html. ATSDR's Toxicological Profiles provide the most detailed information about chemicals and their health effects. Toxicological Profiles can be accessed at http://www.atsdr.cdc.gov/toxpro2.html.

ATSDR's ToxFAQs and Public Health Statements can also be obtained through DOH. Please contact Marcia Henning, DOH's community educator for the Oeser site. Her phone number and e-mail address are toll-free 1-877-485-7316 or 360-236-3378 and marcia.henning@doh.wa.gov.

5. *Does the wood preservative pentachlorophenol contain dioxins?*

Pentachlorophenol usually contains some dioxins. The dioxins are produced as impurities or contaminants during the manufacturing process. Since the 1980s, the amount of dioxins in pentachlorophenol has been substantially reduced.

6. *What is the significance of long-term exposure to low levels of chemicals?*

Long-term exposure to low levels of chemicals might cause health effects. Whether health effects occur, however, depends on how much of the chemical a person is exposed to (dose), how often they are exposed (duration), the way the chemical enters the body (breathing, eating, inhaling, touching) and other individual factors such as age and health. DOH is evaluating whether long-term exposure to low levels of chemicals at the Oeser facility and surrounding land poses a health threat.

7. *Are low levels of chemicals that are considered hormone mimickers more dangerous than low levels of other chemicals?*

   Hormone mimickers are environmental chemicals that mimic natural hormones. Natural hormones, which are also chemicals, regulate body functions such as growth and development. When natural hormones are released in the body, they trigger various processes within the body, such as cell division. Environmental chemicals that act as hormone mimickers may increase, decrease, or have no effect on hormone related activities in the body. Because hormones act at very low levels in the body, concern has been raised about levels of exposure to some environmental contaminants originally thought to be below a level of health concern. EPA is currently investigating the potential for hormone mimicry by environmental contaminants by first determining whether chemicals can mimic hormones and then assessing which of those might actually cause adverse health effects.

8. *Will DOH be reviewing toxicological information when evaluating whether residents and workers who are exposed to pentachlorophenol and other contaminants will experience health problems?*

   DOH is reviewing toxicological information to determine if residents (adults and children) and workers who are exposed to chemicals like pentachlorophenol are likely to experience health problems.

9. *Sickness and cancer among neighborhood dogs seems common. Is this a result of exposure to contaminants from the Oeser site?*

   Many factors, including environmental exposure to chemicals and genetics, play a role in the onset of illness and cancer in dogs. While DOH does not evaluate impacts on animals, methods used to evaluate human exposure should be protective of pets. At the Oeser site, EPA is responsible for assessing ecological hazards.

10. *In October 1995, Oeser Company graded their property adjacent to residential areas in preparation for laying asphalt. Was there risk of exposure to contaminants by residents during that time and what are the health impacts of exposure?*

    DOH has no information to suggest that residents were exposed to contaminated soil when the Oeser Company graded their property in 1995 in preparation for laying asphalt. However, if someone was exposed for this short-term event, DOH anticipates that any health effects, if they occurred, would likely be limited to some brief respiratory irritation.

11. *What health risk will result in Oeser shutting down operationally?*

    DOH does not try to predict what level of contamination or health risk would shut down a facility such as the Oeser Company. However, it does evaluate environmental data to determine whether a site has been adequately characterized so it can assess past, current, and

future exposures to harmful levels of chemicals. This information is then used to make recommendations that, if necessary, will result in actions such as institutional controls (e.g., deed restrictions that limit land use) and/or engineering controls (e.g., soil caps that prevent exposure to contaminated soils) to reduce or eliminate exposure.

12. *Has information gathered so far contained a comparison to epidemiology data?*

    ATSDR toxicological profiles, which contain descriptions and evaluations of toxicological and epidemiological investigations for various chemicals detected at the Oeser site, have been used by DOH as part of its data evaluation process since it began working on the Oeser site.

13. *Is there a health impact to neighborhood residents pertaining to quality of life issues such as odors and noise from the Oeser facility?*

    Unresolved issues regarding odors and noises from the Oeser facility could be a significant source of stress for some community members. Health problems can occur when people experience long-term, elevated stress. Family physicians can provide information about ways to reduce stress around such issues.

14. *Can styrene released from a nearby fiberglass facility affect health?*

    Health effects, such as neurological problems, are associated with exposure to high levels of styrene in air. Whether styrene released from Ershigs, the nearby fiberglass company, poses an inhalation health risk depends on how much styrene a person is exposed to (dose), how often they are exposed (duration), and other individual factors such as age and health. Ershigs estimated a maximum 24-hour average styrene concentration of 80 micrograms per cubic meter (ug/m^3) in ambient air from facility emissions in 1991. Although this value is well below levels of health concern, changes in the way emissions are calculated, along with increased production quantities at Ershigs since 1991, are likely to have changed estimated ambient air levels. Unfortunately, no additional air emission modeling is required under the current NWAPA air operating permit so it is not known how these changes would affect actual or modeled styrene emission results.[3, 4] No air sampling has been conducted to date to verify the modeled estimate or to measure actual styrene levels in air. As a result of these changes and uncertainties, DOH is exploring options to better estimate styrene emissions and evaluate potential health effects.

    General questions about styrene emissions from Ershigs should be directed to Lester Keel or Annie Naismith, Northwest Air Pollution Authority (NWAPA). They can be reached at (360) 428-1617.

15. *The odors from the Oeser facility have affected the neighborhood's quality of life.*

    Comment noted.

16. *Is it safe for animals to drink water from the creek*?

The EPA evaluated whether it is safe for animals to drink water from the creek as part of its ecological risk assessment. Mr. Loren McPhillips, the EPA project manager for the Oeser site, should be contacted at (206) 553-4903 regarding this issue.

17. *Are shellfish at the mouth of Little Squalicum Creek safe to harvest?*

The mouth of Little Squalicum Creek empties into a tide pool on the beach along Bellingham Bay. DOH has a shellfish advisory that recommends that no commercial or recreational shellfish harvesting occur in Bellingham Bay including the area at the mouth of Little Squalicum Creek because of potential contaminants associated with intense urbanization.

September 1994 Oeser Fire

1. *What was the health effect from the 1994 fire at the Oeser facility?*

Whatcom County Health and Human Services (Whatcom County Health) evaluated the potential health effects associated with the fire that occurred at one of the Oeser treatment tanks (i.e., butt tank) in September 1994. The tank was used to treat the base of wood poles with a pentachlorophenol (PCP) solution (5% PCP dissolved in a diesel-like carrier oil). Whatcom County Health's summary of the fire and potential health effects are provided in Appendix A.

2. *Can pentachlorophenol and other chemicals of concern be monitored during a fire?*

Pentachlorophenol and other chemicals could be monitored during a fire. It would require, however, that the appropriate sampling equipment be readily available at or near the site when a fire occurred.

3. *How would the local health department be pro-active in another fire?*

Community members should contact Whatcom County Health and Human Services at (360) 676-6720 regarding questions about local health's procedures for responding to potential fires.

Health Studies

1. *How will DOH's health assessment affect the National Priority List (NPL) outcome?*

The NPL was created by the EPA as a tool to prioritize contaminated sites and clean up those that are determined to pose a threat to human health and/or the environment. Oeser

facility was added to the NPL in October 1997. DOH's health consultations and assessment may have contributed to the EPA's decision to list the site.

2. *Will the Washington State Department of Health (DOH) submit their health concerns about the Oeser site to U.S. Environmental Protection Agency (EPA)?*

   Any health concerns identified by DOH regarding the Oeser site will be provided to the EPA.

3. *What happens if DOH finds a problem with the Oeser site?*

   If DOH identifies conditions at the Oeser site that pose a health threat, it will recommend actions that the Oeser Company and/or appropriate federal, state, and local agencies should take to reduce or eliminate exposure. DOH also makes recommendations, when necessary, for residents to take their own action to reduce exposure. Any recommended actions will be summarized in the public health assessment or health consultation report and made available to the public. DOH follows up on its recommendations to determine if they are being appropriately addressed.

4. *Do the U.S. Environmental Protection Agency (EPA) and the Washington Department of Health (DOH) evaluate data in the same way?*

   The objective of DOH data evaluations is to determine whether a public health hazard exists as a result of exposure to chemicals at a contaminated site and make any necessary recommendations to reduce or eliminate that exposure. DOH uses various sources of information to make this assessment including environmental sampling data, biological tissue sampling data, epidemiology, toxicology and community health concerns. The main objective of the EPA's data evaluation process is to assess hazards to both human health and the environment so that cleanup decisions can be made. EPA relies on many of the same data sources and methods of assessment as DOH, but takes a more quantitative approach in order to set cleanup levels. EPA will require cleanup in situations that DOH may not find to be a public health hazard in order to comply with Superfund law and to ensure protection of human health and the environment into the future.

Agency Relationships

1. *What is the relationship between the EPA and DOH?*

   DOH's Site Assessment Section operates under a cooperative agreement program with the Agency for Toxic Substances and Disease Registry (ATSDR). ATSDR, which was established in 1980 under the Superfund law, is part of the U.S. Department of Health and Human Services and is the principal federal public health agency responsible for health issues related to contaminated sites. DOH, in cooperation with the ATSDR, conducts public health assessments and health consultations when petitioned by concerned community

members, state or federal agencies such as the EPA, or tribal governments who are concerned about risks posed by contaminated sites including Superfund sites.

The EPA is the primary agency responsible for investigating and cleaning up Superfund sites such as Oeser. DOH, as part of the cooperative agreement program with ATSDR, is responsible for evaluating actual health risks posed by a site and provides recommendations to the EPA, other appropriate agencies, and/or the property owner/operator regarding ways to reduce or eliminate people's exposure to contaminated environmental media (i.e., soil, water, air, sediment) at a site.

Oeser Operations

1. *Is there an air scrubber on the retort?*

   Based on information provided by the Northwest Air Pollution Authority, there is no air scrubber on the retort. However, a rudimentary water spray system is used at the retort to reduce odors. Oeser has also reportedly taken additional steps to reduce odors from the retort by applying a vacuum before it is opened to reduce the residual levels of pentachlorophenol solution remaining in the retort and in the pores of the wood poles.

2. *Is the Emergency Response Plan for the Oeser facility adequate and is it broadly communicated to appropriate agencies? Does the neighborhood know of the plan's basic elements?*
   No specific Emergency Response Plan exists for the facility (Judge Godfrey, Oeser Company, personal communication, October 2001). However, Oeser has developed a Spill Prevention, Control and Countermeasure Plan (SPCC Plan) as part of its National Pollutant Discharge Elimination System (NPDES) waste discharge permit. The plan addresses prevention, containment, and control of spills or unplanned discharges of petroleum products, dangerous wastes, or other materials that may cause pollution upon reaching waters of the state. Based on the distribution list provided in the SPCC Plan, the plan has not been distributed to the neighborhood near the facility.[5]

3. *What are the Best Management Practices in place at Oeser to mitigate or abate air contaminants?*

   Questions regarding Best Management Practices used at Oeser to mitigate or abate air contaminants should be directed to the Oeser Company at (360) 734-1480 or Lester Keel, Northwest Air Pollution Authority at (360) 428-1617.

4. *How many pounds of chemicals are discharged into the air per year from the facility?*

   Estimated potential emissions from the Oeser Company for the year 2000 are provided in Appendix B. Questions about the estimated emissions should be directed to Lester Keel, Northwest Air Pollution Authority at (360) 428-1617.

Exposure Pathways and Health Effects Associated with the Oeser Site.

DOH is in the process of evaluating past, current, and future exposure pathways for the Oeser site and determining whether exposure to chemicals through the various pathways will result in adverse health effects. Whether adverse health effects may occur depends on how much chemical a person is exposed to (dose), how often they are exposed (duration), the way the chemical enters the body (breathing, eating, inhaling, touching), and other individual factors such as age and health. The results of DOH's evaluation will be provided in a public health assessment document that will be released in the future. DOH will complete its responses to the following questions and concerns as part of that document.

1. *What are the exposure pathways for the Oeser site?*

   Exposure pathways describe how people are being exposed to environmental contaminants. DOH is evaluating past, current, and future exposure pathways that include exposure to contaminants in air, soil, water, and sediment.

2. *What is the cumulative effect of exposure to several chemicals of potential concern found at the Oeser facility?*

   DOH is evaluating the cumulative effect of exposure to several chemicals at the Oeser site. A person can be exposed by more than one pathway and to more than one chemical. Exposure to multiple pathways occurs if a contaminant is present in more than one medium (i.e., air, soil, surface water, groundwater, and sediment). For example, the dose of a contaminant received from breathing contaminated air should be added to the dose from contacting contaminated soil if a person could be exposed by both pathways.

   It is much more difficult, however, to assess exposure to multiple chemicals. In almost every situation of environmental exposure, there are multiple contaminants to consider. The potential exists for these chemicals to interact in the body and increase or decrease the potential for adverse health effects. The vast numbers of chemicals in the environment make it impossible to measure all of the possible interactions between these chemicals. Individual cancer risk estimates can be added since they are measures of probability. When estimating noncancer risk, however, similarities must exist between the chemicals if the doses are to be added. Groups of chemicals that have similar toxic effects can be added such as volatile organic compounds (VOCs) which cause liver toxicity. Polycyclic aromatic hydrocarbons (PAHs) are another group of chemicals that can be assessed as one added dose based on similarities in chemical structure and metabolites. Both EPA and DOH take such considerations into account.

3. *Is there a higher risk for cancer, particularly breast cancer, for people living near the Oeser site?*

   DOH is evaluating the cancer risk posed by the Oeser site.

4. *Are local dermatologists aware of skin problem cluster in the area?*

   Contaminated air and surface soil are two potential sources of skin irritants at the site. DOH is evaluating the dermal route of exposure but currently has no plans to contact local dermatologists.

5. *Are we being exposed to something now that may not show (i.e., symptoms) for years?*

   DOH is evaluating the health effects associated with long-term exposure to chemicals found at the Oeser site.

6. *Can air and groundwater contamination released from the Oeser site effect my garden? Is it safe to eat homegrown produce such as vegetables and fruits?*

   Based on information provided by EPA, gardens do not appear to be a significant exposure pathway. [2, 6] DOH is conducting a further evaluation as part of the health assessment.

7. *The community has easy access to the Oeser site. Is there health concern for people, particularly children who wander onto the site?*

   The Oeser facility is currently an operating wood treating facility where wood treating chemicals are currently used and have contaminated soil. Although the site is fenced, two entrance gates are open during business hours which makes it is possible for a trespasser to enter the site. DOH is evaluating whether a trespasser's (child or adult) exposure to site contaminants could result in potential health effects. Infrequent contact with contaminated soil is not likely to pose any hazard. However, physical hazards may exist and children should not wander the site unsupervised.

8. *What are the chemicals that were found and what are the health effects?*

   The primary chemicals found at the Oeser site are associated with wood preservatives: polycyclic aromatic hydrocarbons (PAHs), the predominant class of chemicals found in creosote; pentachlorophenol (PCP); and dioxins, contaminants associated with PCP. DOH is evaluating the potential health effects associated with the levels of these and other chemicals

found at the Oeser site. Some nontechnical information about the health effects associated with PAHs, PCP, and dioxins and their potential health effects are provided in Appendix C.

9. *Will my child's health be affected if he accidentally eats some dirt from my yard?*

   DOH determined in 1996, based on analytical results obtained by EPA from a limited number of residential properties, that soils did not appear to pose a health hazard to children or adults.[1] DOH is continuing to evaluate potential child and adult health risks associated with contaminated residential soils using data collected by EPA during the 1998 remedial investigation.

10. *Neighbors are concerned about being guinea pigs*.

    DOH acknowledges the community's health concerns and is evaluating whether the Oeser site poses a health threat.

11. *An article in the newspaper suggested that the residents living near the Oeser site immediately relocate due to the nature of the chemicals involved. Is this true?*

    The only information that DOH has about the newspaper article mentioned in this question is that it appeared in a newspaper on or prior to May 30, 1996. Consequently, DOH cannot respond to the question about relocation. DOH, however, is evaluating contaminants associated with the Oeser site to determine whether steps need to be taken to reduce or eliminate health risks.

12. *Can air emissions released from the company affect my unborn child?*

    Unborn children (i.e., embryos and fetuses) are highly sensitive to many chemicals, particularly with respect to childhood development. DOH is evaluating the air emission data to determine whether the concentrations detected at the Oeser site can cause health effects in children, including unborn children, and adults.

13. *Can exposure to air emissions cause congenital health problems in newborns?*

    Congenital health problems occur prior to birth during the development of the fetus and can be caused by either genetic or environmental factors. DOH is evaluating the air emission data to determine whether the concentrations of chemicals can cause health effects in children, including unborn children, and adults.

14. *A resident raises chickens and has had chicks born with deformities. The deformities seem to correlate with the prevalence of odors. Can air emissions (odors) released for Oeser cause birth defects in humans and animals?*

    Many factors, including environmental exposure to chemicals and genetics, can cause birth

defects in humans and animals. DOH does not attempt to determine the cause of the deformities in this small population of chicks. However, DOH is evaluating the air emission data to determine whether the concentrations detected at and near Oeser site can cause health effects in humans.

15. *Birchwood Elementary School is located near the Oeser site. Can the health of the school children be affected by the air emissions from the Oeser site?*

    DOH is evaluating whether the Birchwood Elementary School is located in an area that can be potentially affected by emissions from the Oeser site. If it is located in such an area, DOH will evaluate whether the air concentrations can cause health effects in students and teachers attending the school.

16. *Can air emissions (odors) from the Oeser site affect health?*

    Chemical odors alone cannot cause health effects. However, unresolved issues regarding odors from the Oeser facility could be a significant source of stress for some community members. Health problems can occur when people experience long-term, elevated stress. Family physicians can provide information about ways to reduce stress around such issues. DOH will be evaluating whether the chemicals detected in air at the site pose a health risk to children and adults.

17. *Can exposure to air emissions from the Oeser site cause skin rashes, chemical sensitivity, hypersensitivity, allergies, eye irritation, migraines, coughs, asthma, and sinus problems?*

    Health effects such as skin rashes, chemical sensitivity, hypersensitivity, allergies, eye irritation, migraines, coughs, asthma and sinus problems have many potential causes including exposure to chemical released into the air. DOH is evaluating the chemical concentrations detected in air samples taken at and near the Oeser facility to determine if health effects such as these could occur as a result of exposure to the chemicals released by Oeser.

18. *There appears to be community-wide respiratory problems; can this be caused by exposure to air emissions released from the Oeser site?*

    Many factors, including environmental exposure to chemicals, can cause respiratory problems. DOH is evaluating the air emission data to determine whether the concentrations detected at and near Oeser site can cause such problems.

19. *Air deposition is apparent on windows of homes and cars. What is causing this air deposition and can the air particulates affect health?*

    Many sources of particulate matter exist in the environment including burning of wood, diesel and other fuels, industrial activities, agricultural activities such as plowing or burning

of vegetation, unpaved roads as well as other sources. Some of the sources may be located near the area where they are deposited; other sources may be some distance away. The Northwest Air Pollution Authority (NWAPA) regulates particulate emissions. Questions or concerns about potential sources of particulate emissions near the Oeser site should be directed to NWAPA at (360) 428-1617 or (800) 622-4627 from Island or Whatcom County. They also can be contacted at 1600 S. Second Street, Mount Vernon, WA 98273.
Health effects, such as respiratory problems, can be associated with exposure to particulate matter. However, whether particulate matter poses a health risk depends several factors such as particle size, chemicals associated with the particulate matter, how much of the particulate matter a person is exposed to (dose), how often they are exposed (duration), and other individual factors such as age and health.

20. A*t night black smoke appears to come from the area near the Oeser site and settles low to the ground. Also, strong diesel-like odors come from the Oeser site and seem worse in the summer. Can these events affect health?*

    Chemical odors are often a nuisance but do not necessarily pose a health hazard. However, odors do indicate the presence of at least one chemical in air and, depending on the chemical, can cause respiratory irritation or other effects particularly in sensitive individuals. DOH will be evaluating air quality data associated with the Oeser site.

21. *White smoke is released when the Oeser Company starts their furnaces. Can this affect health?*

    DOH will be evaluating the health effects associated with chemicals released to the air at the Oeser Company, including those potentially released from their furnaces.

22. *Is it safe for children to play in the creek*?

    Chemicals, including the type found at the Oeser facility, have been detected at low levels in sediment, and surface water samples collected from the Little Squalicum Creek and in soil piles adjacent to the creek. Groundwater and three storm water outfalls (Birchwood, Oeser, and Marine View Drive) feed the creek. Water flow in the creek is intermittent. During drier months of the year, the creek bed is exposed. Based on EPA's evaluation of the soil, sediment, and surface water data collected from the creek area, some of the chemicals appear to pose a slight health risk. However, EPA has determined that these risks may be over estimated.[2] Consequently, there is some uncertainty about the health risks posed to children who are periodically playing at the creek. As a precaution, parents may want to limit their child's exposure to the soil, sediment and surface water in the creek until DOH determines whether the low levels of contaminants found in these environmental media pose a health risk to children who may be exposed infrequently over an extended time period.

23. *Nothing can live in the creek, so why is it safe for my children to play in it?*

    Although there is information available that indicates that the creek cannot support a fish population because flow is intermittent throughout the year, there is no other evidence available to suggest that other organisms cannot live in the creek. As noted in the response to the previous question, DOH is evaluating whether contaminants detected in the creek and nearby soils would pose a health risk for children who play in the creek area over an extended time period.

24. *What are the health impacts to people, particularly children, and pets who are exposed to contaminants found in the Little Squalicum Creek?*

    Soil, sediment, and surface water in and around Little Squalicum Creek are potential sources of contamination. DOH is evaluating whether these sources could be affecting human health. It is anticipated that if the contaminant concentrations do not cause health effects in humans that they would likely not cause health effects in pets.

Child Health Initiative

The Oeser Company Superfund site is located in an area where children potentially could be exposed to contaminants through the soil, water, sediment, and air pathways. Children can be uniquely vulnerable to the hazardous effects of environmental contaminants. When compared to adults, pound for pound of body weight, children drink more water, eat more food, and breathe more air. Children have a tendency to play closer to the ground and often put their fingers in their mouths. These facts lead to an increased exposure to contaminants. Additionally, the fetus is highly sensitive to many chemicals, particularly with respect to potential impacts on childhood development. For these reasons, DOH is considering the specific impacts that contaminants may have on children, as well as other sensitive populations.

Conclusions

The Oeser Company Superfund site poses an indeterminate public health hazard because DOH is in the process of evaluating the site characterization data collected by EPA.

Recommendations/Action Plan

1. DOH should complete its public health assessment for the Oeser site.

   Action

   DOH will complete the public health assessment in the future. A draft public health assessment report will be released at that time. That document will replace the draft public health assessment that was released in February 1999.

2. DOH should answer the questions and concerns included in this health consultation that could not be addressed until the site characterization data collected by the EPA has been evaluated.

   Action
   DOH will provide responses to the outstanding community questions and concerns in its future public health assessment report.

3. Oeser should provide a copy of the Spill Prevention, Control and Countermeasure Plan to the Oeser Cedar Cleanup Coalition and other interested community members.

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1. Washington State Department of Health. Public health assessment for Oeser Company (public comment version), Bellingham, Whatcom County, Washington. Olympia, Washington: 1999 February 8.

2. Ecology and Environment, Region 10 Superfund Technical Assessment and Response Team. The Oeser Company Superfund site, remedial investigation report, Bellingham, Washington. 2002 June.

3. Washington State Department of Health. Letter from Paul Marchant to Annie Naismith, Northwest Air Pollution Authority, concerning air operating permit for Ershigs, Inc, Bellingham, Washington. Olympia, Washington. March 26, 2002.

4. Northwest Air Pollution Authority. Letter from James Randles to Paul Marchant, Washington State Department of Health, concerning air operating permit for Ershigs, Inc, Bellingham, Washington. July 8, 2002.

5. Howard Edde, Inc. Spill prevention, control and countermeasure plan, the Oeser Company, 730 Marine Drive, Bellingham, Washington. Bellevue, Washington: 2001 September.

6. Environmental Protection Agency. Response from Marcia Bailey concerning draft health consultation addressing community health concerns about Oeser Superfund site. 2002 January 22.

Certification

This Health Consultation was prepared by the Washington State Department of Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the health consultation was begun.

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The Division of Health Assessment and Consultation, ATSDR, has reviewed this public health consultation and concurs with the findings.

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Figure 1

Appendix A

Whatcom County Health
Fire Incident Report
September 27, 1994 Fire at the Oeser Facility

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Appendix B

Estimated Potential Air Emissions - 2000
Oeser Facility

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Appendix C

Health Information for
Polycyclic Aromatic Hydrocarbons (PAHs)
Pentachlorophenol (PCP)
Dioxins

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